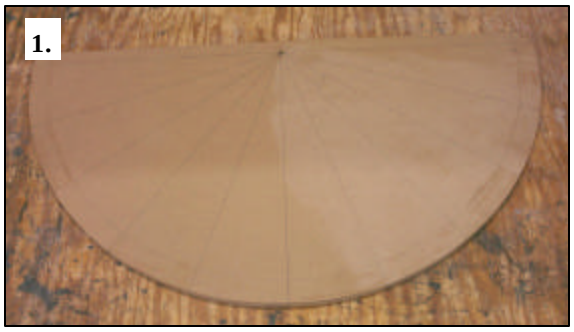
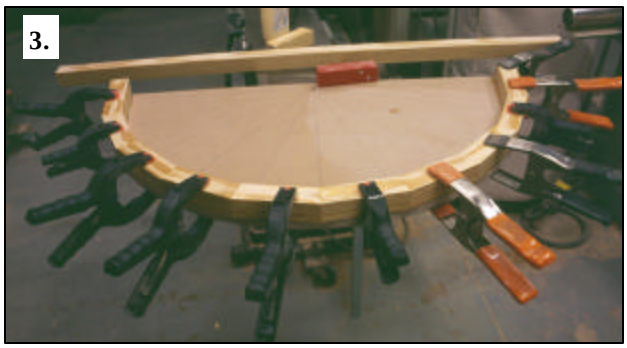
The WoodWorkers' Edge

Baltimore Card Table



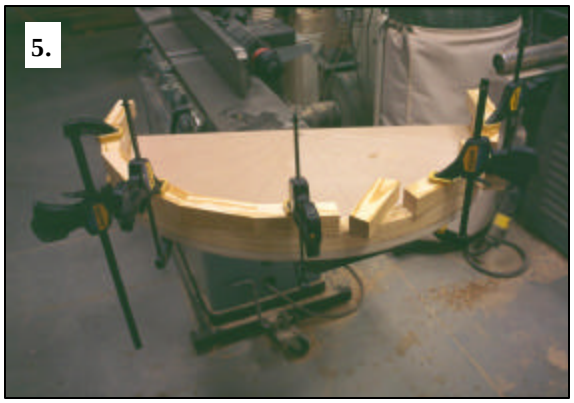
Begin this project by cutting a half circle template of 3/4" MDF at a 33 1/2" diameter using a piece that starts at 18" x 34" . I used a set-up at the bandsaw and placed my guide pin hole at 16 3/4" from the front edge, see step #7. This allows the hole to not be precisely at the back edge. Save the cutoff pieces for later in the project!

Next, cut your pieces of yellow pine to size while making the angle cut on each end at 9 degrees. You can see in the picture that I have oriented the grain so that the "quarter sawn" edge is to the front. This helps to reduce the movement of the face when complete. Glue the pine blocks onto the template, around the outer edge.



Plenty of clamps make this easier.

When the row has dried use a flush trim router bit (Rockler #90858) to sculpt the front face to the template.



Repeat the process from step #2 with the second row of yellow pine blocks (Notice the clamps need to open wider) and route the face again. Repeat the steps for the third and last time.

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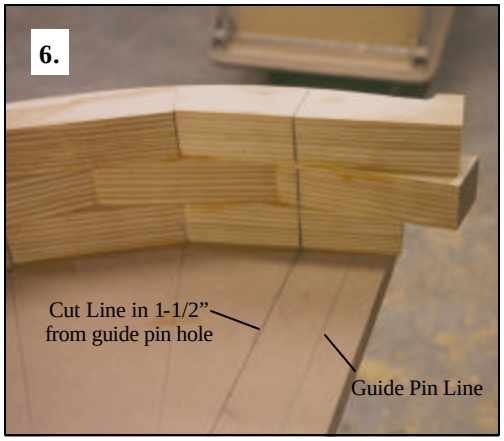
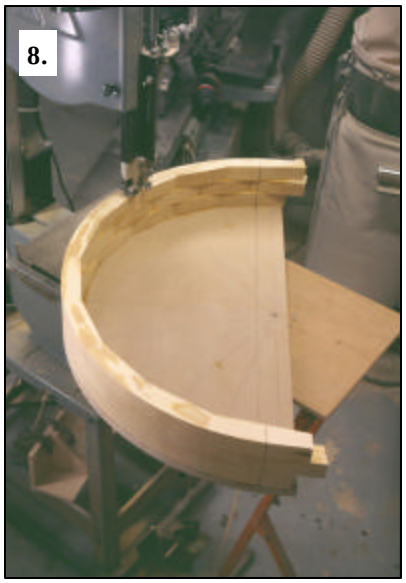


With the "bricking" complete, mark a line that is the back edge of your apron. This line is 1-1/2" in front of the guide pin hole, or 15-1/4" from the front edge of the apron. (See step #8 below)

Move back to the set-up at the bandsaw and reposition your pin to 15 5/8" from the blade.



Set the template and bricking onto the guide pin and make a slow, steady cut using a 1/2" skip tooth blade as shown. The resulting cut is slightly over 1" thick. The curved apron is made!

At the table saw carefully make two cuts. The first is to seperate the apron from the template. The second is to trim the apron to it's 4" width.

At the mitersaw clamp the apron so that you can make a 90 degree cut exactly at the line extended in step #6.

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With the apron clamped at your bench, layout the dovetail pins that are to be cut into the piece. Define the pins with a backsaw and remove the waste material making sure to keep the bottom of each tail area at a right angle to the apron end.

Transfer the pin layout onto the rear apron, then cut to create the tails. If you run into a problem here it is probably the angle cut of the bottom of the tail area. You can "adjust" the fit of the rear apron by slightly beveling the end on the board. Once you have a nice fit, glue it in place.

Next, cut a center stretcher that fits snuggly between the rear and front aprons. Attach the piece with screws and plug the front screw holes.

Make a template for locating the front legs into the apron. I like to use 1/2"Baltic Birch plywood and biscuits. Leave an opening that is 1 5/8" wide x 4" long. Add a straight edge to the back of the template that will allow clamping to the apron.

Place that template into position and clamp making sure that the inside edges are tight to the apron. Use a dado or planer router bit with a top mount bearing to cut away the material to a depth of 3/8".

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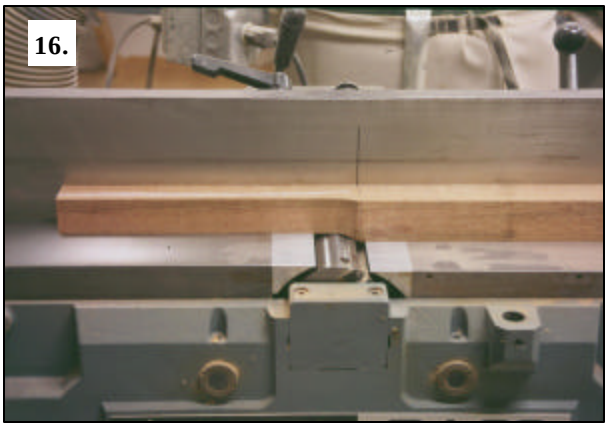
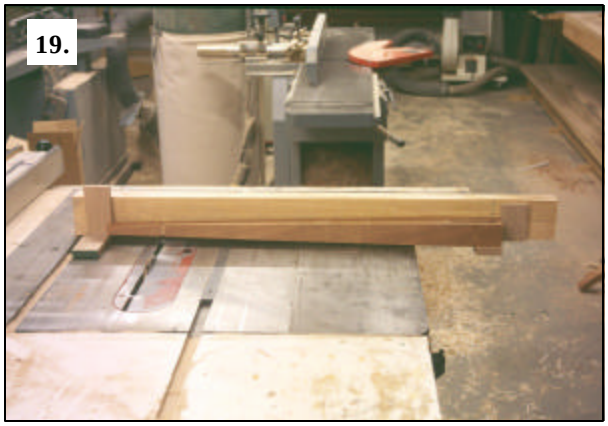


Begin the steps to make the tapered legs by roughing the lumber to size. I enjoy cutting the legs at the jointer. Repetition of the cuts is almost exact. Draw a line at 4 1/2" from the top and a second line at one half the total length of taper, measuring up from the foot. Set the jointer to cut half of the taper needed. In this case 3/16" because we are tapering all four sides a total of 3/8" per side or 3/4" combined. Run the cut over the knives to that second drawn line on all four sides.

Flip the leg "end for end" an make a second pass over the knives on each side while keeping the near end, or foot, flat on the jointer bed, as shown. This completes the tapering process.

Select the front legs and layout the area to create the "Bridle" joint to attach the legs to the apron. Measure down 4" from the top of the leg and 5/8" from the front face. Remove the necessary material by making several cuts at the bandsaw and finishing with a sharp chisel. For the rear legs now is the time to make the mortises that attach the legs to the swing apron (1/4"w x 3"l x 1"d).



Using the T-square, make a "cradle" that will hold the leg in position and level to the table saw top. Install a dado blade to cut the 1/4" for the cuff of the leg. Cut all four sides of all four legs.

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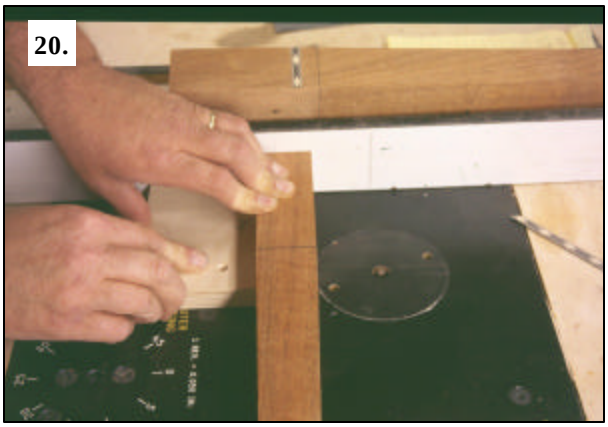

Next, load a 1/4" straight cut router bit into the router table. Holding the top of the leg against the fence and the face side toward the table (remember that the face side of the rear or back legs is the side facing outward, opposite of the mortise) make a pass over the bit cutting the thickness of your inlay. This cut should start at 3 3/4" from the top of the leg and align with the lower edge of the apron. Because the leg is tapered, it is important to keep the face side in contact with the table at all times.

With a 1/16" bit (Lee Valley #15J06.14) in the router table and the fence set a 1/4" from the bit, make the cuts for the string inlay. Set the bit to cut an 1/8" deep and run the cut on two edges of the face, from the 4 1/2" line at the top of the leg into the area that was cut for the cuff. You need only to run these cuts for the face of the two front legs and the side of the rear legs that is opposite of the rear of the table

Make a simple arched pattern that will acts as a guide for your router bushing. Using the 1/16" bit, start by setting the bit into one side of the existing cut and move toward the opposite side until it just enters the second side cut. All the time keeping the bushing against the pattern. It is a good idea to mark the beginning and ending edges of the router base for reference.

Cut and install the stringing. I cut the necessary thickness at the table saw and ripped the width at the bandsaw. It helps to install a zero clearance throat at the bandsaw (Scrap of 1/4" plywood). Add the glue sparingly into the cut, start the stringing at the top, and gently force it into position. Sometimes I use a larger piece of dowel as a rolling pin to help. Also, cut & fit the cuff. This is a 1/4" wide and 3/16" thick material. I like to miter the corners on the cuff for appearance. Here I built a simple jig to help. It is a 45 degree fence set onto plywood. My trim saw makes the cut at the end.

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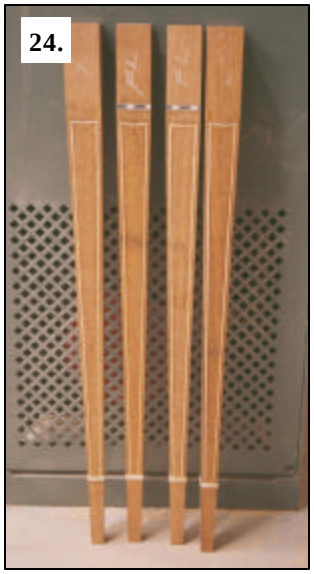
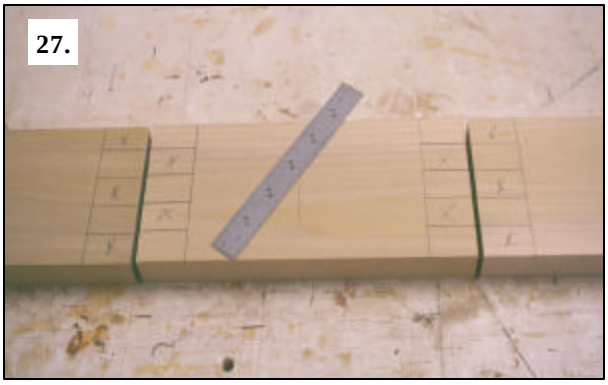


Here is the grouping of the inlaid legs in position as they are in the table. The middle two are the front legs, while the outer legs are for the rear.

Build a box to hold the leg and an oval pattern to cut for the inlay. This will allow the oval inlay be cut into the top of the leg. Center the cut between the top of the leg and the lower edge of the apron as well as the middle, from side to side. Use a brass inlay kit as directed.

Double stick tape the inlay onto a scrap, place the same pattern into position, and again using the inlay kit as directed, cut the inlay to match. ***Positioning is of vital importance with this step! Make sure to get the inlay centered in the pattern.*** *Carefully remove the cut piece of inlay from the scrap, apply the glue, and install. Cut a small oval scrap to act as a press. Place a piece of waxpaper over the inlay then position the scrap oval and clamp.*

While the inlay dries begin the twin knuckle joint for the swing legs. Cut the pieces to size, scribe a line 1 1/4" in from the ends, and begin by laying out five equal spaces. This done by setting one end of a ruler on zero and the other end at 5". Mark each of the inch marks and transfer the marks to the ends of the center or fixed portion of the rail and one end of each swing sections. Mark the blocks as shown to designate the waste areas. Mark the top edge of all three pieces to insure that they go back in position.



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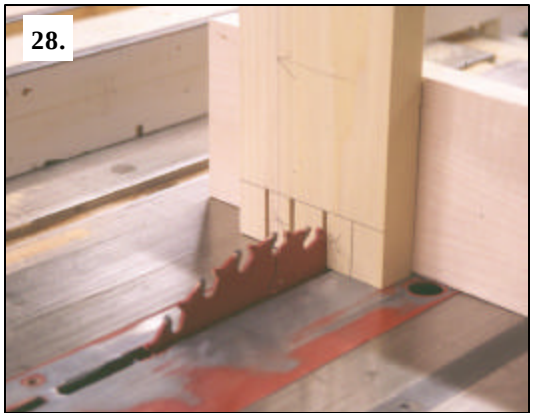
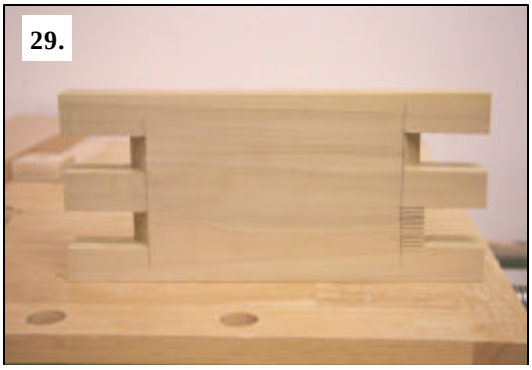
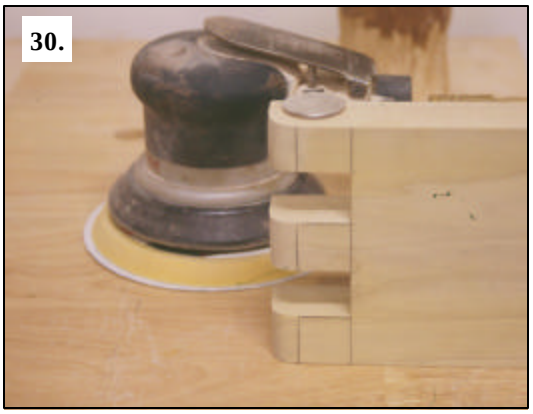


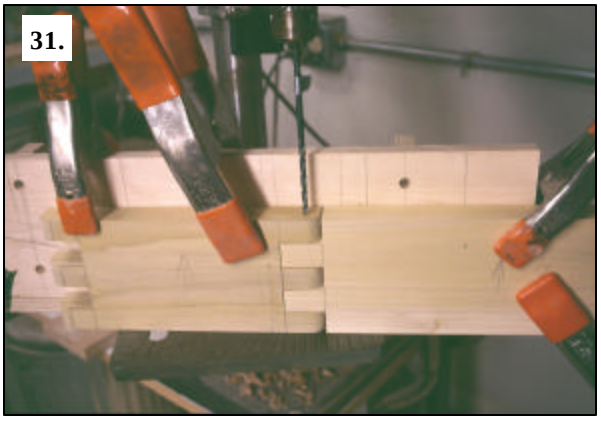
At the saw set the blade to the 1 1/4" line and make the cuts that define the joint fingers. Make sure to cut on the waste side of the line and nibble away the areas.



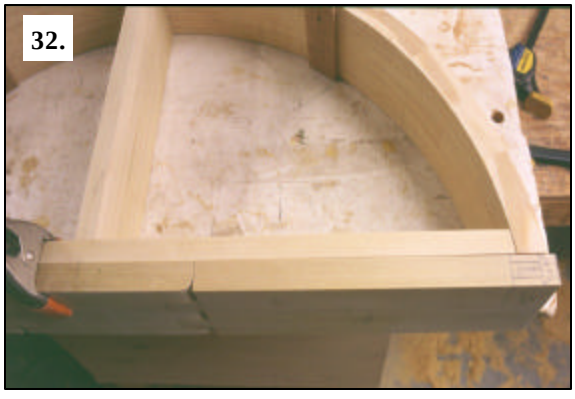
With the fingers all cut take the fixed rail and on the back side draw a line 3/4" behind the the shoulder cut at the saw. With a hand saw cut small cuts to that line while maintaining the front edge shoulder. This is a 45 degree cut into the back that allows the fingers on the swing rails to open correctly. With the cuts made, remove the necessary material.



Round the outside edge of the fixed rails & the inside edge of the swing rails. I use a quarter to draw the circle and roundover the edge with the sander.



Position the pieces into place against a tall straight fence leaving a small space at each set of fingers. Use a long 3/16" drill bit to drill for the steel rod that acts as the hinge pivot. The hole center should be 3/8" from the end of the fingers and centered from the edges.



Next, clamp the assembly to the apron and mark & cut at a 1/4" beyond the apron corner at each end. This is the outside edge of the leg. Then layout to create the tenon for joining the leg.

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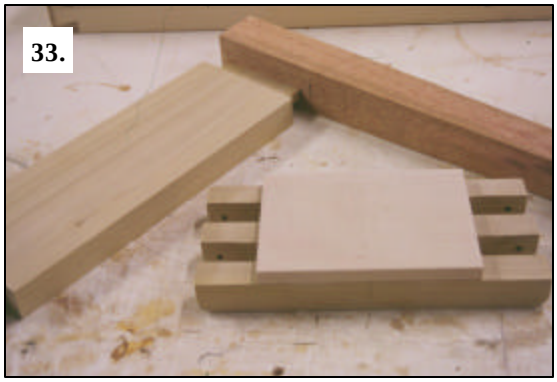
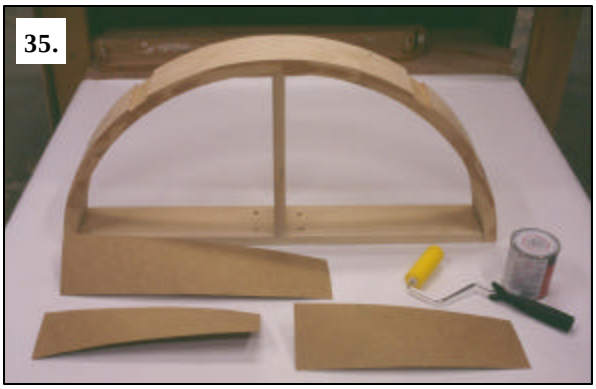


With the mortise & tenons made of the swing rails and legs, add the swing rail spacer to the fixed rail with glue & brads. Do not attach the legs to the swing rails!

Set the assembly aside and begin preparing to veneer the apron fronts. Roll out the veneer and mark the piece on a 45 degree angle. Layout & cut the panels for the apron. I make the panels 1/2" oversized.

Apply a generous amount of contact cement on the apron and panels. Follow the directions on the product.



When the cement is ready carefully place the panels onto the apron. With the oversized panels you should not have trouble with this step but, move cautiously. Make sure to roll the panels to smooth any small air bubbles. I use a section of dowel rod.

Use a flush trim router bit to trim the edges of the veneer. To help make a nice cut work in the direction of the grain in the veneer. Carefully trim the ends with a straight edge and a sharp knife.

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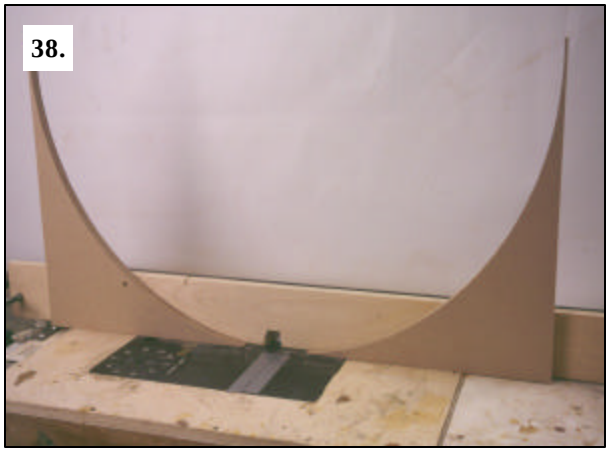
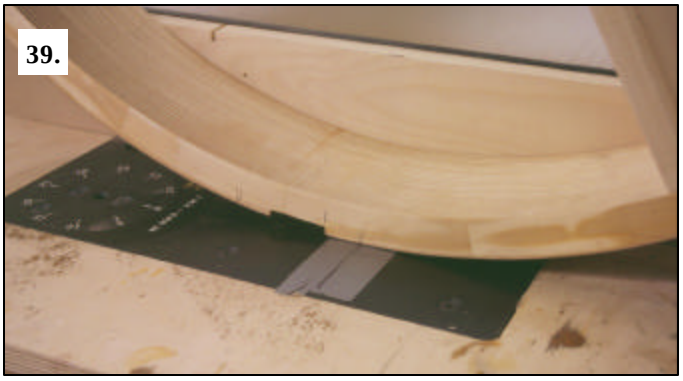
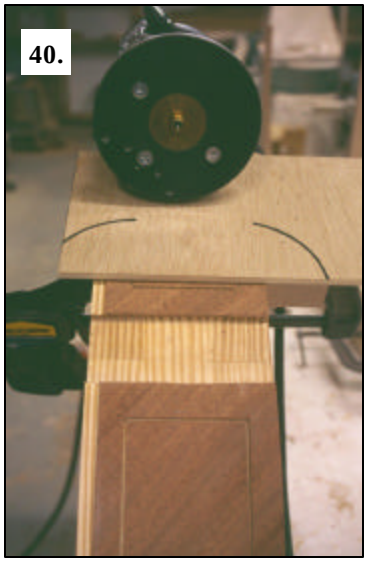


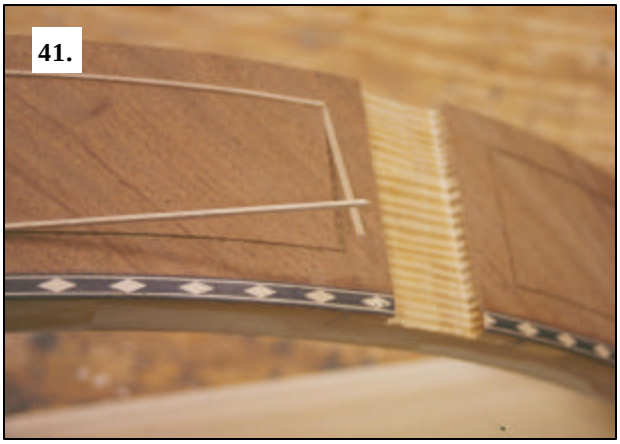
Use the cutoff pieces from the apron template to set up the jig at the router table. Attach them to a sacrificial fence so that the apron just fits inside the pair. Install the 1/16" straight bit, set to an 1/8" height and mark both sides of the bit width on a piece of tape that extends about 5" perpendicular from the bit.



Mark a line that is 3/4" from each end of all the panels of the apron. Set the fence 3/4" from the bit. Plunge the apron onto the bit and spin the assemby in the jig to the opposite line. Repeat this process on each panel. Re-position the fence to 2 15/16" and make the same cuts, creating the string inlay line for the bottom of the apron. Finally, install a 1/4" straight bit and cut the bottom edge of the apron for the "store bought" inlay.



Install the 1/16" bit into the trim router along with a small bushing (I use the Inlay Kit) to act as a pilot. Clamp a straight edge into position allowing the bit to begin in one of the string lines. I mark the edges of the router base plate to help me with this cut. Set the bit into the apron, make the cut against the straight edge, and finish at the opposite line. Repeat this step at both ends of each panel.



Using contact cement install the bought inlay along the bottom edge of the apron. Cut to size and fit the shop-made string inlay using wood glue. Here you will need the time to install the inlay. Remember that a little glue goes a long way in that small line and to roll the inlay into the groove with a section of dowel.

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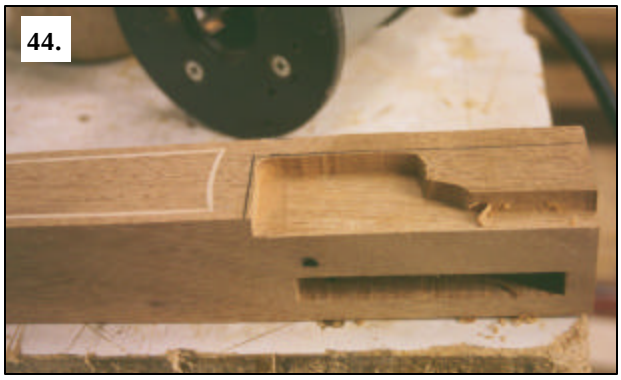
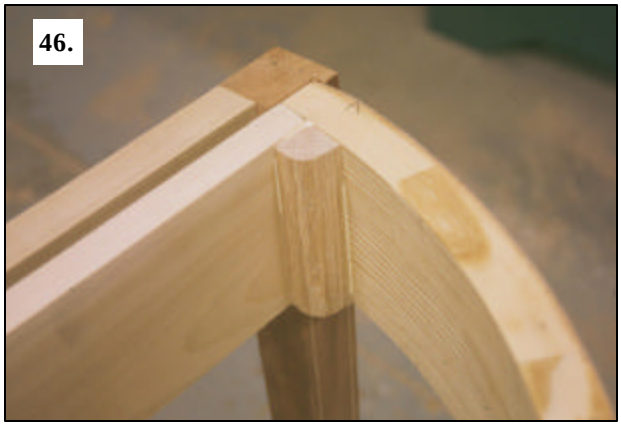
With everything dry and set, carefully use a scraper to bring the inlay to the veneer surface.

Re-install the swing leg assembly, pull the rear legs tight to the apron while leveling the top edge, and mark the area on the leg that is to be cut away to a depth of a 1/4".



Remove the legs from the swing rail. Use a router and straight cutting bit to remove as much of the material as possible. Do not cut past the lines. Finish up any remaining material with a sharp chisel. Glie the legs to the swing rails.

At this time make the final connection of the front legs. Add glue to all surfaces of the bridle joint, clamp in place until set, then finish with a #12 x 1 1/4" wood screw.



Cut & fit glue blocks into the corners of the table. These will need to be cut on a slight angle to insure a secure fit!

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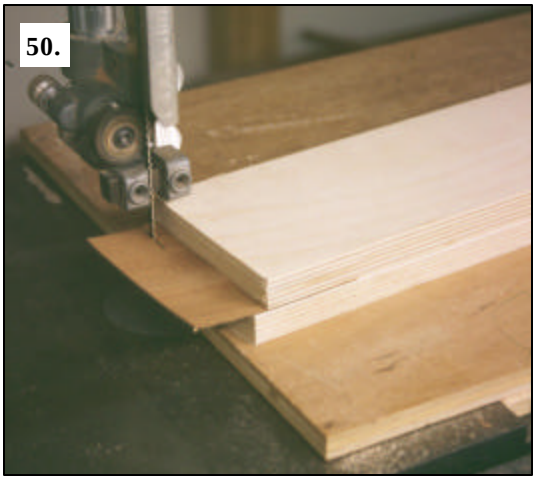
Turning our attention to the tops, set up and cut the half round pieces for the top and sub-top at the band saw as we did the template in the first step. Place the pivot hole at 17 3/4" back from the front edge of the top and centered in the top from side to side. The pin on your circle cutting jig should also be at 17 3/4".

Create a top template the same way. Use a 16 7/8" location on the pin. Once the template is cut to half round, it is necessary to cut the back edge to achieve the 7/8" area at the rear of the top. The goal here is to have a 7/8" band on all sides of the top once the template is in place. Attach the template with two screws (located in the area that is to be covered with a veneer inlay) and double stick tape.

Install a 3/4" outside diameter bushing along with a 5/8" straight cutting bit into the router and remove the edge banding waste material. Take patience to set the depth of cut to the veneer thickness! This has to be worked in a couple of passes and you should make sure to keep one pass with the bushing tight against the template.



To make the radius edge banding take a scrap piece of plywood that is 4 1/2" wide and 18" long, locate a pin hole at one end, place the circle cutting jig pin in the 16 7/8" hole, and swing cut the plywood. With strips of veneer cut to 4", lay one strip onto the plywood, lay a second piece of plywood on top of that to keep things flat, and with the veneer extended, make a pass at the saw. Simply slide the veneer out about an 1 1/4" and make a second pass. This creates the first piece of edge band veneer. You will need 22 or more pieces of this edge banding.

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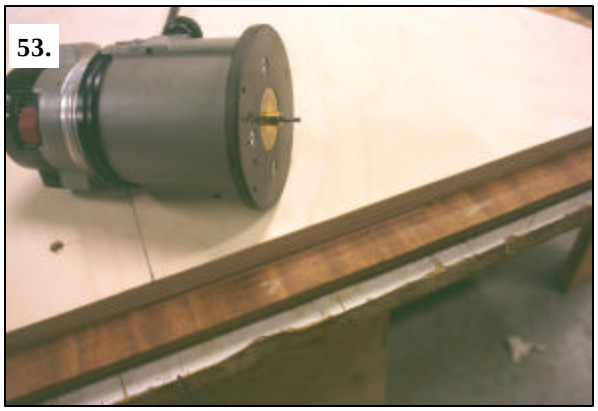
Use a sharp utility knife and straight edge to match up the edge of the cross banding while fitting the pieces to the top. Leave the template in place! Work around the entire top.

With the edge band all cut, number the pieces as they fit (I use Chalk). Remove the pieces and apply the contact cement as directed. When ready, carefully apply the edge band to the top. Press the pieces to insure a tight fit. Allow to dry.



When dry, trim the outside edge with a flush trim router bit. Install the 1/8" bit and the bushing from an inlay kit, without the additional spacer, and run the groove for the top, inside string inlay tight against the template. The groove should touch both the edge banding and the solid Top surface that extends out from the template.

With all the grooves cut it is time to make the stringing and install the pieces into the top. Remember a snug fit is required on the stringing. Because of the tight radius of the innner circle, it may be necessary to dampen the stinging before installing. Leave it in the groove to dry. It will hold it's shape when dry.

Remove the top template, clamp the interior inlay template in place, and follow the direction on the inlay kit to cut the area and the matching inlay. Because we need to re-install this template I mark the center line of the template and a corresponding line on the top. Glue the inlay into position and when dry replace the template and cut a groove around the inlay just as you did to define the area. It is important to correctly place the template for the second cutting!

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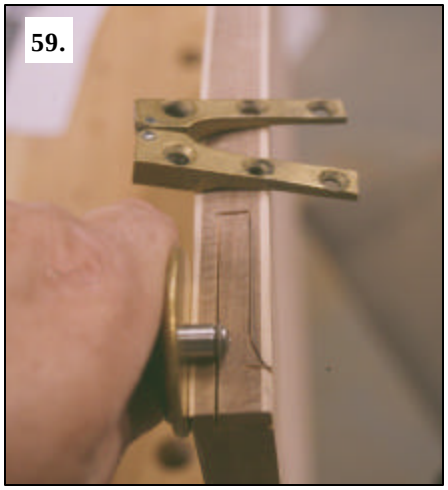
When you need to join two pieces of the stringing, do so with a scarf joint, as shown.

Creating for the final bit of stringing is all that is left in the making of the top. Here I have changed the bearing on a flush trim bit to allow for a 1/16" cut (3/8" bearing placed on a 1/2" bit). You need to run the top & bottom of both the top and the sub-top.

Create the shop-made stringing for the edge of the top and install this with the contact cement as we did before. When dry carefully scrape and sand all inlay flush with the top.



The installation of the hinges is all hand work. Layout the location & hinge shape, and cut the area with chisels.

Finished hinge installation!

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With a 1/4" three wing slot cutter bit in the router table, make the slots for the wooden clips use to attach the table top. Space them equally along the front & rear, and place a few along the medial stretcher. The cut should be a 1/2" from the apron top edge.

Make the wooden clips which are 3/4" thick x 7/8" wide x 2 1/4" long. Rabbet one end to fit into the grooves and attach the Sub-Top using #8 x 1 1/4" slot head wood screws.

Final sand the entire table and you are ready to finish.

The finish begins with black paint! Place tape at the lower edge of the cuff inlay and paint two light coats of paint to the foot of the legs. This will create the ebonized look! Once the paint has dried, apply two coats of blonde shellac, a coat of dark brown glaze, and finished with three additional coats of shellac. Let the shellac dry and hand rubbed the table to a satin finish with steel wool and wool lube. Then apply a few coats of paste wax.